



PEACE/WILLISTON
FISH & WILDLIFE
COMPENSATION
PROGRAM

BChydro 



A Reconnaissance Survey Of Windy Point Lake

A. R. McLean
1989

PFWWCP Report No. 97

The Peace/Williston Fish & Wildlife Compensation Program is a cooperative venture of BC Hydro and the provincial fish and wildlife management agencies, supported by funding from BC Hydro. The Program was established to enhance and protect fish and wildlife resources affected by the construction of the W.A.C. Bennett and Peace Canyon dams on the Peace River, and the subsequent creation of the Williston and Dinosaur Reservoirs.

**Peace/Williston Fish and Wildlife Compensation Program, 1011 Fourth Ave.
3rd Floor, Prince George B.C. V2L 3H9**

Website: www.bchydro.bc.ca/environment/initiatives/pwcp/

**This report has been approved by the Peace/Williston Fish and Wildlife
Compensation Program Fish Technical Committee.**

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Prince George, B.C. V2L 3H9

A RECONNAISSANCE SURVEY OF
WINDY POINT LAKE

WATERSHED: Parsnip River
DATE OF SURVEY: June 7. 8. 1989
FIELD CREW LEADER: D.A. Jesson
FIELD ASSISTANT: M.G. Labach

PEACE FISHERIES COMPENSATION PROGRAM
B.C. HYDRO
ENVIRONMENTAL RESOURCES
and
B.C. ENVIRONMENT
FISH AND WILDLIFE BRANCH

REPORT PREPARED BY: A.R. McLean

RELEASED BY: 
D.H.G. Ableson, Regional Fisheries Biologist

Lake: WINDY POINT

SYSTEM NAME: -

A.S.A.P. REFERENCE NO.: --

SYSTEM NO: -

DATA ON FILE FOR THIS SURVEY

Location	X	Dissolved O2/Temp. Profiles	X
Physical Data	-	Winter Dissolved O2/Temp. Profiles	-
Bench Mark	X	Netting Record	X
Terrain Features	X	Lake Catch Summary	X
Access	X	Individual Fish Data	X
Resorts and Campsites	X	Fish Preserved	X
Other Developments	X	Stomach Analysis	X
Obstructions and Pollutions	X	Scale Reading	X
Special Restrictions	X	Location of Inventory Sites	X
Aquatic Plants	X	Photograph Directory	X
Wildlife Observations	X	Appendices:	
Miscellaneous Comments	X	A: Water Chemistry Analysis	X
Lake Drainage	X	B: Tributary Stream Data	X
Fisheries Management Comments	X	Bathymetric Map Reduction	-
History of Previous Surveys	X	Bathymetric Map	-
Water Chemistry Summary	X		

LOCATION

Location:	25 km south of Mackenzie	
Elevation:	716 m +/-	
Latitude/Longitude:	55°06'52":122°58'54"	U.T.M. 10.5012.61073
Management Unit:	7-24	N.T.S. Map No.: 93-0/2

Drainage: Internal drainage.

PHYSICAL DATA

See Whately, M.R. and G.W. Nielson, 1968.

BENCHMARK

(Iron spike, center of red circle) located approx. 1 m from the south shore, approx. 10m northeast of access point, in a 22 cm diameter lodgepole pine tree. Benchmark is set 2.0 m above present lake level.

High water mark: 6 cm above water level at time of survey.

Lake: **WINDY POINT**

TERRAIN FEATURES

Immediate Shoreline:

Shoreline slope to the lake is moderately steep. Windy Point Lake is treed to water's edge, with the exception of the marsh located at the northwest end, and the access point at the south shore of the lake. The marsh area consists of sedgegrasses, labrador tea and stunted alder. The understory extends 1 - 2 m out over lake around the majority of the lake. Dominant shoreline type is almost 100% deciduous. Shoreline substrate consists of organics, with some gravel noted underneath. Lake bottom drops off moderate to steep.

Surrounding Country:

Windy Point Lake is surrounded by gently sloping terrain. The maturing forest cover consists of a 50/50 mixed of white birch and lodgepole pine.

Windy Point Lake is located in the sub-boreal spruce biogeoclimatic zone.

Lake: **WINDY POINT**

ACCESS

Directions:

From the junction of Highway 39 and 97, travel south on Highway 97 approx. 1.9 km and turn right at Windy Point Inn. Proceed down the right side of the main building, turning right on the first gravel/dirt road. Proceed approx. 300 m to the lake's edge.

Road Type and Conditions:

Highway 97 is a paved, two lane, all weather highway. The lake access road is a single lane, gravel/dirt road in moderate condition.

Restrictions:

The initial section of the gravel/dirt road is owned by the proprietor of Windy Point Inn. The remaining section of road and launch area is Crown Land.

RESORTS AND CAMPSITES

Windy Point Inn is located close to the lake. It is a truck stop with a restaurant, gas station, store and sleeping accomodations.

Discussions are in progress with B.C. Forest Service with regards to recreation site development.

OTHER DEVELOPMENTS

A wharf is located at the south shore of the lake.

Assorted trailers and mobile homes are present in the area behind Windy Point Inn.

Lake: WINDY POINT

OBSTRUCTIONS AND POLLUTIONS

None.

SPECIAL RESTRICTIONS

An "electric motors only" application has been submitted by B.C. Environment (Prince George) for Windy Point Lake.

AQUATIC PLANTS

Potamogeton sp. was noted near access area.

Sporadic patches of Nuphar sp. and algae (floated up from lake bottom) noted on lake surface.

WILDLIFE OBSERVATIONS

None observed, however birds could be heard.

MISCELLANEOUS COMMENTS

This small, well protected lake is well suited for an engine restriction. Vehicle noise from highway 97 interferes with otherwise serene setting.

Several pairs of rainbow trout observed unsuccessfully attempting to spawn along the south shore.

Two anglers fishing for 2 hours produced 1 rainbow trout.

Fish noted rising and surface feeding on insects.

No Gammarus observed as indicated in previous study.

Reports of rainbow trout to 3 or 4 lbs from Inn owners.

Tadpole Larvae moderately abundant.

The timber located at the southwest corner of the lake has been spaced approx. 1 - 2 years ago. Fallen trees which have not been removed are a potential fire hazard.

Lake: WINDY POINT

LAKE DRAINAGE

General:

Windy Point Lake has one intermittent inlet and no outlet.

Major Systems:

None.

Minor Systems:

Unnamed C. - intermittent inlet

This inlet drains the marsh area at the north end of the lake and affords no fisheries potential.

See point sample card for additional information.

Lake: **WINDY POINT**

FISHERIES MANAGEMENT COMMENTS

Windy Point Lake is a monoculture rainbow trout lake currently stocked by B.C. Environment since 1970. The only drainage is through seepage entering the lake from the marsh located at the north end. This intermittent inlet has no fisheries potential. Fish sampling results in this investigation and in one completed in 1983 (B.C. Environment) indicates a spawn bound situation in the rainbow trout population.

One possible method of encouraging the fish to spawn is to install an upwelling facility near shore. Engineering design could be adopted from the Vivian Lake Upwelling Facility design by George Goos, Engineering Services Unit, Recreational Fisheries Branch, Victoria, B.C. The most suitable location for the station is the access area at the south shore of the lake. Rainbow trout were observed attempting (unsuccessfully) to shore spawn in this area in 1989. In addition, hydro electric power is close and the Windy Point Inn is within 200 m of the access area (added security). Alternately, a short section of artificial spawning stream could be constructed on the south shore to alleviate the spawn bound situation.

Post Survey Note: An upwelling station was installed at the south end of the lake in September/October of 1992 by the Peace Fisheries Compensation Program. The design was adopted from the Vivian Lake Upwelling Facility design. Operation of the station is scheduled for 1993/94.

B.C. Forest Service constructed a recreation site at the northwest end of the lake in 1992.

Lake: **WINDY POINT**

HISTORY OF PREVIOUS SURVEYS

Lake Surveys:

Ableson, D. and B. Little, 1983 Stocking Assessment of Windy Point Lake (data sheets).

Whately, M.R. and G.W. Nielson, 1968. A Reconnaissance Survey of Windy Point Lake (data sheets).

Taylor, G.D., 1961. Partial Lake Survey of Windy Point Lake (data sheets).

Data sheets are on file at B.C. Environment, Prince George.

Other Related Surveys:

None known.

Lake: WINDY POINT

WATER CHEMISTRY SUMMARY **Limnology Station No. 1**

Field Conditions:

Date:	June 8, 1989		
Time:	1020 hrs	Air Temperature:	19.5°C
Wind Velocity:	0.5 km/hr	Wind Direction:	northwest
Cloud Cover:	6/10 o.c.	Surface Condition:	flat to slight ripple
Secchi Disc:	10.05 m	Water Colour:	turquoise

Method(s) Used:

Dissolved Oxygen:	YSI model 58 oxygen/temperature meter
Water Temperature:	YSI model 58 oxygen/temperature meter
Air Temperature:	Hand-held alcohol thermometer
Ph (field):	Hach pH tester
H2S (field):	Hach H2S field test kit
Laboratory Used:	Zenon Environmental Inc. B.C. Laboratory Services
Water Sampler:	Verticle Alpha Water Bottle (Vandorn)
Substrate Sampler:	Substrate sample not taken

Water Sample Chemistry:

SEAM Site No.: To be determined later

Sampling Depths

	<u>Surface (0 m)</u>	<u>Lower (15.0 m)</u>
pH (field)	7.9	6.8
pH (lab)	7.9	7.0
Specific Conductance (lab)	79 umhos/cm	93 umhos/cm
Filterable Residue 105°C (lab)	42 mg/l	50 mg/l
H2S (field)	-- mg/l	0.0 mg/l
Bottom Depth:	16.0 m	
Substrate Sample Depth:	-- m	

Lab pH analyzed outside of optional time frame.

Lake: WINDY POINT

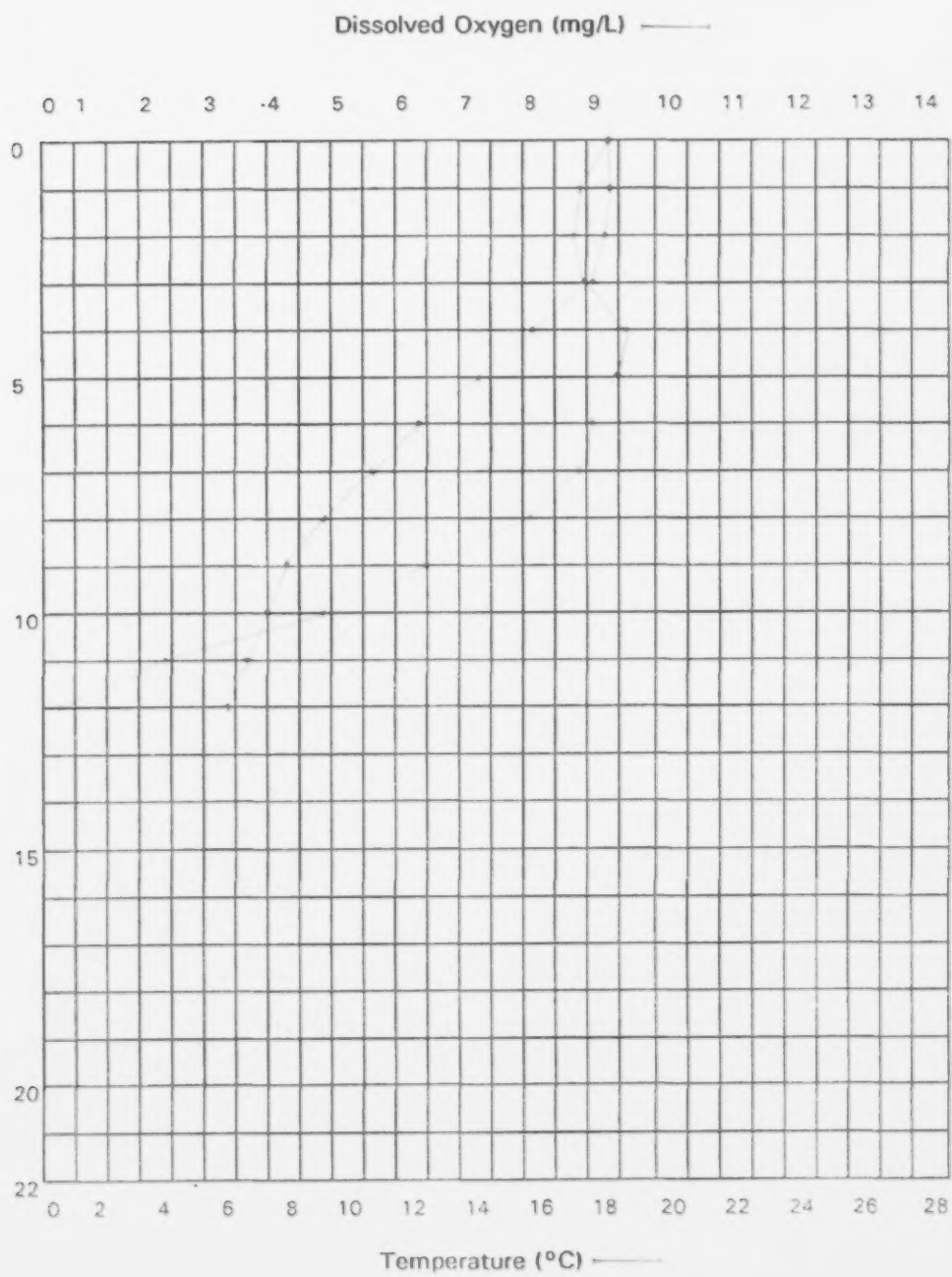
DATE: June 8, 1989

SUMMER OXYGEN/TEMPERATURE DATA

DEPTH (m)	O ₂ (mg/l)	TEMP (°C)
Surface	9.44	17.7
1.0	8.90	17.7
2.0	8.88	17.6
3.0	9.05	17.2
4.0	9.58	15.3
5.0	9.48	13.7
6.0	9.12	11.9
7.0	8.85	10.2
8.0	8.15	8.9
9.0	6.45	7.6
10.0	4.91	7.0
11.0	2.44	6.3
12.0	0.55	5.9

Lake: WINDY POINT

SUMMER
DISSOLVED OXYGEN AND TEMPERATURE SERIES



Lake: WINDY POINT

NETTING RECORD

Mesh sizes experimental order: 25, 76, 51, 89, 38, 64 mm

NETTING SITE #1

Type: Sinking monofilament
Date Set: June 8, 1989 Time: 0940 hrs
Date Lifted: June 8, 1989 Time: 1140 hrs
Net Dimensions: Length: 91.4 m Depth: 2.4 m
Shallow End Mesh Size: 25 mm Depth: 1.5 m
Substrate: organics covering gravel
Deep End Mesh Size: 64 mm Depth: 12.0 m
Substrate: organics

LAKE CATCH SUMMARY

SPECIES	NET SITE NO.				ANGLED	OTHER	TOTAL	NUMBER SAMPLED	NUMBER PRESERVED	SIZE RANGE (cm)
	1	2	3	4						
rainbowtrout	13						13	13		14.4- 34.5

Minnow Traps:

BAIT: Sardines

#	HOURS	DEPTH (m)	SUBSTRATE	SPECIES	SIZE RANGE (cm)
1	17.20	0.5	organics	leeches	-
2	17.15	0.5	organics and large organic debris	nil	-

Lake: **WINDY POINT**

INDIVIDUAL FISH DATA

Date Captured: June 7.8. 1989

Method of Capture: Sinking monofilament gill net.

M - Male IMM - Immature EG - Egg SC - Scale
 F - Female MG - Maturing FR - Fin Ray ST - Stomach
 ? - Not MT - Mature HD - Head TG - Fish Tag
 Obvious GV - Gravid ML - Milt WF - Whole Fish
 SP - Spent OT - Otolith
 ? - Not Obvious

SPECIES	Fork Length (cm)	Weight (grams)	Sex	Gonadal Maturity	Sample Type	Age (yrs)	Stomach Contents					COMMENTS
							Bottom Organisms	Plankton	Insects	fish	Other	
rainbow trout	14.4	40	F	IMM	SC	1		Plankton	beetle			tapeworm cysts
rainbow trout	25.5	150	M	GV	SC	3			insect larvae			tapeworms
rainbow trout	25.5	210	F	GV	sc				beetle		detritus	
rainbow trout	25.8	210	F	GV	sc	3						stomach empty; tapeworm cysts
rainbow trout	27.5	235	F	MG	sc	2						tapeworms
rainbow trout	27.5	250	F	GV	sc	3						
rainbow trout	28.8	240	F	GV	sc	3			beetle			tapeworms
rainbow trout	29.8	290	M	MG	sc	3		Plankton				
rainbow trout	32.0	390	F	GV	sc	3		Plankton				
rainbow trout	32.2	445	M	MG	sc	4		Plankton			detritus	
rainbow trout	34.0	440	F	MG	sc	3			beetle			
rainbow trout	34.2	430	M	MG	sc	4	clams				detritus	fish silver in colour
rainbow trout	34.5	490	F	MG	sc	3						stomach empty

AGE DETERMINATION COMPLETED BY:

D.A. Jesson, Peace Fisheries Compensation Program, Prince George, B.C.

Windy Point Lake



Not To Scale

Lake: **WINDY POINT**

PHOTOGRAPH DIRECTORY

<u>Negative #</u>	<u>Plate #</u>	<u>Description</u>
R1:20,21,22	1	Panoramic view of Windy Point Lake, looking south southwest. Note Windy Point Inn in background. Arrows indicate access road and boat launch site.
R1:10	2	View of boat launch site located on the south shore of the lake.
R1:12	3	Rainbow trout unsuccessfully attempting to shore spawn at boat launch area.
R1:23	4	Upstream view looking north northwest at inlet marsh area.



Plate 1: Panoramic view of Windy Point Lake, looking south southwest. Note Windy Point Inn in background. Arrows indicate access road and both launch site.

Lake: WINDY POINT



Plate 2: View of boat launch site located on the south shore of the lake.



Plate 3: Rainbow trout unsuccessfully attempting to shore spawn at boat launch area.

Lake: WINDY POINT



Plate 4: Upstream view looking north northwest at inlet marsh area.

Lake: WINDY POINT

Appendix A
LABORATORY REPORT
Water Chemistry Analysis

SEASIDE ENVIRONMENTAL INC.
S.W. LABORATORY SERVICE
PRINCE GEORGE, B.C. V2G 0G1

SALES - Field Program

ATTN: WESCOTT

WESLEY WINDY POINT LAKE

Submittal # 362171 WESCOTT 2

Address: ENVIRONMENTAL & MARINE
ROOM 325 1011 4TH AVENUE
PRINCE GEORGE, B.C.
V2L 3H9

Phone: 661-1111

Analysis: 1000
Client's reference code: 1000
Submitting agency code: 1000

Site: WINDY POINT LAKE

Sample: 1000
Sample: 1000
Sample: 1000

This form was processed to the computer on 12-01-1989 as REGULAR
The form is analyzing samples for 2015 for 16

Wesley Wescott	1	1000
Wesley Wescott	1	1000
Wesley Wescott	1	1000



SEARCH & ANALYTICAL, INC.
 1800 S. LABORATORY SERVICE
 1800 S. LABORATORY SERVICE
 1800 S. LABORATORY SERVICE

Page 2

Sample Name: 1800 S. LABORATORY SERVICE
 Sample ID: 1800 S. LABORATORY SERVICE
 Sample Date: 1800 S. LABORATORY SERVICE

Test Date: 1800 S. LABORATORY SERVICE
 Test Type: 1800 S. LABORATORY SERVICE
 Sample Name: 1800 S. LABORATORY SERVICE
 Sample ID: 1800 S. LABORATORY SERVICE

Parameter / Description	Result	Units	Analytical Technique (Barcode/Medium/Pres'n)
pH		pH units	Calomel pH Meter 1800 S. LABORATORY SERVICE
Residual Chlorine		mg/L	Dr. J. M. Fisher 100 1800 S. LABORATORY SERVICE
Specific Conductance		µS/cm	Hand Meter, Stetco 1800 S. LABORATORY SERVICE
Free Chlorine (mg/L)		mg/L	Dr. J. M. Fisher 100 1800 S. LABORATORY SERVICE
Alkalinity (mg/L)		mg/L	Hand Meter, Electrode 1800 S. LABORATORY SERVICE
Residual Chlorine		mg/L	Analysed outside of optimal time frame

Carnegie Beach - Pier Head

Date: 05/02/96

Sample ID: 0000016

Carnegie Beach - Pier Head

Carnegie Beach - Pier Head

Date: 05/02/96

From: pH/DO/DO2

To: DO/DO2/DO2

Depth Range: 15.0, 18.0

Time

Sample Date: 05/02/96

Sample Name:

Parameter Description	Result	Units	Analyst(s) Technique (Specimen/Method/Pres. #)
pH		pH Units	Automated pH Meter (00001/000/00/01)
Result	8.0 pH units	Analyst: [redacted] Date: 05/02/96	
Residue Residual	0	mg/L	Merck N. 100 Residual, 100C (00001/000/00/01)
Specific Conductance	0.0	uS/cm	DO2 Meter, DO2/DO2 (00001/000/00/01)
DO2 Filterable (0.1)	0	mg/L	DO2 Meter, DO2/DO2 (00001/000/00/01)
Alkalinity (0.01 A.S.)	0	mg/L	DO2 Meter, DO2/DO2 (00001/000/00/01)
Result	0.0 mg/L	Analyst: [redacted] Date: 05/02/96	

Lake: WINDY POINT

Appendix B
TRIBUTARY STREAM DATA

Lake: **WINDY POINT**

System Name: **Unnamed C. inlet**

System No.:

Site Location: Sample Site #1, 100 m upstream from the lake.

Date:	June 7, 1989	Time:	-- hrs
Channel Width:	1.3 m	Water Temp.:	-- °C
Wetted Width:	0.0 m	Stage (flow)	--
Max. Depth:	-- cm	Velocity:	-- m/sec
Avg. Depth:	-- cm	Field Gradient:	-- %
Turbidity:	-- cm	Colour:	--

Flood Signs:

Height: -- cm

Type: --

Substrate Breakdown:

Fines	Small Gravel	Large Gravel	Cobble
100 %	-- %	-- %	-- %
Boulder	Bedrock		
-- %	-- %		

Substrate Compaction: nil **Sand:** 0 %

Banks:

	Form	Height	Stability
Right	--	0.2 m	stable due to rooted vegetation
Left	--	0.2 m	stable due to rooted vegetation

Comments:

Creek exists in low lying marsh area.
No spawning potential.